#### TWENTY-SECOND

### ANNUAL REPORT

ON THE

### SANITARY CONDITION

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### BOOTLE,

BY THE

#### MEDICAL OFFICER OF HEALTH.



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## SANITARY CONDITON, &c., OF THE COUNTY BOROUGH OF BOOTLE.

DURING the Year 1894, the Returns of the Local Registrar, Mr. Edwin Smith, record 1,660 Births and 917 Deaths within the Borough, the natural increase of the population being therefore 743. On comparing these numbers with those in 1893, it will be seen that there was a decrease of both births and deaths—viz., of 168 in the number of births, and of 236 in that of deaths.

#### POPULATION.

As the population of Bootle is of such a migratory character, that it is constantly varying in number, I cannot estimate it accurately in the usual way by logarithms, or even by the number of newly-inhabited houses, but, notwithstanding there has been a reduction in the number of births, yet as the birth-rate for the past year was 32·23 per 1000, on an estimate of 51,500, I think I may fairly estimate that number as the average population of Bootle, especially as this birth-rate exceeded the average birth-rate of the 33 large towns, and that of the whole of England and Wales. The following table shows the number of births and deaths during the 10 years, 1884-1893 (inclusive), and in the year 1894:—

Years.	Births.	Deaths.	Years.	Births.	Deaths.
1884	 1657	 847	1889	 1668	 886
1885	 1589	 807	1890	 1706	 1017
1886	 1737	897	1891	 1780	 1165
1887	 1595	 920	1892	1710	 951
1888	 1681	 820	1893	 1828	 1153

1894—Births 1660; Deaths 917.

By this table, it will be noticed, that although there was a diminution in the number of births in 1894, when compared with the previous year, yet there was also a diminution in the number of deaths, and in consequence the natural increase of the population (743) exceeded that in 1893 (675) by 68.

#### BIRTHS.

The number of births registered in Bootle in 1894 was 1660, of which 855 were males and 805 females. The total number was 168 less than in 1893, and the birth-rate was equal to 32.23 per 1000. This birth-rate exceeded that of the 33 large towns in 1894 by 1.53, and that of England and Wales by 2.6.

#### DEATHS.

The number of deaths registered in Bootle in 1894 was 917, of which 472 were males and 445 females, so that the deaths of males exceeded those of females by 27. The total number was 236 less than in 1893, and the deathrate was equal to 17·8 per 1000. As, however, 86 paupers said to belong to Bootle died in the Walton and Mill Road Workhouses of the West Derby Union, and thus died "outside the district," and 52 deaths of persons not belonging to Bootle occurred "within the district," the difference between these numbers—viz., 34—has to be added to the 917 deaths before mentioned. Of the 86 paupers belonging to Bootle who died in the Workhouses there were admitted 2 in 1886, 1 in 1890, 2 in 1891, 5 in 1892, 10 in 1893 and 66 in 1894. The death-rate was without the addition of 34 equal to 17·8 but with this addition 18·4 per 1000, the latter being 4·7 per 1000 less than in 1893. The death-rate (even with the addition mentioned) was very nearly the same as that of the average of the 33 large towns, which was 18·12, and only exceeded that of the whole of England and Wales by 1·8.

#### INFANT MORTALITY.

The deaths of infants under 5 years of age within the Borough amounted to 412, and thus comprised 44.9 per cent of the whole deaths. This percentage was 3.12 less than that of 1893, the total number being 142 less than in 1893, which number was exactly the same as the excess in 1893 over 1892. The deaths of infants under one year were 262 and were 89 less than in 1893. They were 157.8 per 1000 of the registered births, in other words 15.7 per cent. of those born died within the 1st year of life, a percentage of 4 less than in 1893. This decrease of the percentage of infantile deaths. I consider to be a very satisfactory feature in this year's report. The largest number of deaths under 5 years occurred in September, when 49 children died, which number was however 43 less than the largest number of infantile deaths in 1893. By the published returns of infant mortality, measure l by

the proportion of deaths under 1 year to the registered births, I find that in the 33 large towns the average mortality was 152, and in the whole of England and Wales 137 per 1000.

Analysis of the Causes of Deaths.—In reviewing the causes of deaths in Bootle in 1894, I will first compare the death-rates in Bootle in the 4 quarters of the year, with the approximate death-rates of the 33 large towns and of the whole of England and Wales.

Bootl	le.	;	33 Large Town	s,	E	ngland and Wi	iles
1st Quarter	19.46	1st	Quarter	21	1st	Quarter	20
2nd ,.	15.51	2nd	, ,	17.4	2nd	, ,	15.8
9rd ,,	19.73	3rd	9 9	16:4	3rd	, ,	14.2
4tlı "	16.57	4th	, ,	17.7	4th	<b>3</b> 9	16.4

By the above comparison of death-rates, it will be at once perceived that in Bootle the 3rd quarter was that in which the largest mortality occurred, and caused the total death-rate to exceed that of England and Wales, and if it had not been for the high death-rate in the 3rd quarter, the total death-rate would have been lower than that of the 33 large towns, and possibly that of England and Wales. In the 1st and 2nd quarters the death-rates in Bootle were less than in the 33 large towns, and also in England and Wales, and in the 4th quarter the death-rate in Bootle was less than in the 33 large towns, and nearly the same as in England and Wales. It is necessary therefore to look to the 3rd quarter to find out the weak spot in our sanitary condition, for we find that the death-rate in this quarter exceeded that in the 33 large towns by 3.3, and that of the whole of England and Wales by as much as 5.5. The cause of the increased mortality in the 3rd quarter will be ascertained by looking through Table 4, which gives a summary of the causes of deaths, and it will be found by this table that the increase in the 3rd quarter was caused by the usual prevalence of infantile diarrhea and enteric fever. On comparing the total mortality in Bootle in 1894 with that in 1893 the causes of the general decreased mortality in 1894 will be at once seen. cipally to the lower temperature in 1894, there was a great decrease of diarrhea and enteric fever, the decrease of the former being as much as 83, and that of the latter 13. There was also a decrease of 9 in deaths from measles, 10 in deaths from whooping cough, 12 in tubercular diseases, 37 in diseases of brain, and 42 in diseases of the lungs and air-passages. The only increase of mortality of any consequence in 1894, was an increase of 19 deaths in scarlatina. The deaths in the Bootle Borough Hospital (84) were 8 less

than in 1893, and 30 of these deaths were of persons not belonging to Bootle. The deaths in the hospital for infectious or contagious diseases at Linacre numbered 38, and exceeded the deaths in 1893 by 5. There has been in Bootle for many years past a large amount of sickness amongt the panperclass of inhabitants. The number of cases seen during the year, by the District Medical Officer was as follows:—1st quarter 706, 2nd quarter 642, 3rd quarter 546, 4th quarter 515-total 2,409 the numbers decreasing gradually towards the end of the year, and the total number being 242 less than in 1893. The class of cases treated are nearly always the same, the principal causes being due to exposure, to wet and cold, zymotic diseases, want, improvidence and intemperance. Table No. 4, gives a summary of the various classes of diseases, the 1st class being that of zymotic diseases, a most important class, to the prevention and extinction of which sanitary science is specially directed. In commenting on this class, I shall mention the sanitary work accomplished, and a summary of the action and measures taken during the year to prevent the extension of contagious, infectious, or epidemic diseases.

#### ZYMOTIC DISEASES.

The number of deaths from the seven principal zymotics, viz:—smallpox, measles, scarlatina, diphtheria, whooping cough, fevers and diarrhea (after deducting 10 deaths of persons from outside the Borough, 4 from scarlatina, and 6 from enteric fever, and adding 1 death from scarlatina, and 1 from whooping cough in Bootle persons occurring in the workhouses) was 157. This number was 105 less than that in 1893. Of this number 102 were of children under 5 years of age, and the death-rate was equal to 3.04 per 1,000, the death-rate being 2.14 per 1,000 less than in 1893, but exceeding that of the 33 large towns by 0.59. The total number was 8 less than the average of the preceding 10 years. The number of infectious or contagious diseases notified to the sanitary authority during the year was 1,039, this number not including measles, which is a disease the notification of which is not made compulsory by the Local Government Board. The diseases notified were as follows: -Smallpox 5, scarlatina 638, diphtheria 32. typhus 3, enteric (or typhoid) 294, simple continued fever 2, puerperal fever 6, membranous croup 12, erysipelas 47. The total number of notifications exceeded those in 1893 by 233, an increase nearly the same in number as that in 1893 over that in 1892. The comparison of the death-rates of the 7

principal zymotics in Bootle with the death-rates from these diseases in the 33 large towns was as follows:—

,					Bootle,	33 I	.arge Towns.
Smallpox .					0.0		0.04
Measles	• • •			 • • •	0.291		0.63
Scarlatina .		• • •		 	0.699		0.21
Diplitheria .				 	0 097		0.38
Whooping C	lough			 	0.446		0.48
Fevers .				 ,	0.64		0.19
Diarrhea				 	0.873		0.51
			Total	 	3.046		2.44

From the comparison of the above death-rates, it will be noticed that those from measles, diphtheria, and whooping-cough, in Bootle, were less than those from the same zymotics in the 33 large towns, but unfortunately the deathrates from scarlatina, "fevers" and diarrhea, in Bootle, were considerably in excess of those from the same diseases in the 33 large towns. By the Local Government Boards, Table B, it will be seen that of the 1,039 cases notified, 270 were from Derby Ward, 415 from Knowsley Ward, and 354 from Stanley Ward. When compared with 1893, these numbers show an increase in each of the 3 wards, viz:-84 in Derby Ward, 93 in Knowsley Ward, and 57 in Stanley Ward. As in 1893, the largest number of notifications came from Knowslev Ward, the number from which ward exceeded that from Derby Ward by 145, and that from Stanley Ward by 61. It is, however, rather remarkable that although the number of notifications in Knowsley Ward thus considerably exceeded those in Derby, and also those in Stanley Wards, yet the death returns show that the number of deaths from notifiable diseases were not in the same proportion as the notifications in the 3 wards. The residences of the persons who died from these notifiable diseases, either in their homes or in the Linacre Hospital will prove this. They are as follows: - Derby Ward 25, Knowsley 27, Stanley 32.

#### HOSPITAL FOR INFECTIOUS DISEASES.

The total number of cases treated in the Hospital for Infectious Diseases at Linacre was 406, which was an increase of 90 over the number tracated in 1893. Of the total number 333 were residents and 73 non-residents. Of the residents admitted and treated in the hospital 71 were from Derby Ward, 146 from Knowsley Ward and 116 from Stanley Ward. Of

the non-residents 30 were from Seaforth, 24 from Waterloo, 10 from Litherland, and 9 from Crosby. There was thus an increase of 127 cases from Bootle, and a decrease of 39 cases from the out-townships, the decrease being general in all the out-townships, but more marked in Seaforth. On the other hand there was an increase of cases in all the wards in Bootle, viz: -23 in Derby Ward, 51 in Knowsley Ward, and 53 in Stanley Ward. The Local Government Board's Table A, shows that there were 38 deaths altogether in this hospital, viz: -29 from Bootle and 10 from the out-townships, giving a total death-rate of 9.3 per cent., but the percentage of deaths from the Bootle cases was 8.4, and that from the out-townships 13.7. The larger percentage of deaths from the cases in the out-townships, I am informed, is accounted for by the greater severity of the cases sent to Hospital from these out-townships. There is no doubt the utility of this Hospital was again fully proved, not only by the prompt isolation of the 5 smallpox cases, but also by the isolation afforded to the large number of scarlatina and enteric fever cases. With respect to the enteric cases, I consider the strict and proper dietary and careful treatment of these cases in hospital, as even of more importance than the isolation, for it is almost impossible in the houses of the poor to get the relatives of the patient to observe the rules of treatment, so necessary for curing the infected person.

#### DISINFECTING APPARATUS.

The following is a list supplied to me by Dr. Bierracki of the various articles disinfected at the shed during the year:—Mattresses, 1,346; beds, 965; bolsters and pillows, 2,202; quilts, 1.070; blankets, 1,218; sheets, 1,021; carpets, 304; wearing apparel, 3,528; miscellaneous articles, 976—total 12,630. I must repeat what I have said before about this valuable apparatus, it is almost the best that is made at the present time, and is called "Washington Lyon's Patent." Before being bought it was highly recommended by Dr. Parsons, one of the Local Government Board's medical inspectors, and can furnish a heat of 250° by superheated steam. Occasionally, when the bedding or articles sent are very foul, or have been used by patients suffering from very infectious diseases, such as smallpox or typhus, they are burnt at the cost of the sanitary authority. Infected houses and rooms are fumigated by sulphurous acid gas, and carbolic powder is largely used around infected premises, foul middens, drains, &c, and the disinfectants are furnished free of cost.

I will now proceed to make a few observations on each of the seven principal zymotic diseases, seriatim, and afterwards on the other classes of diseases. The first zymotic I will call attention to is

#### SMALLPOX.

During the year 5 cases of this disease were notified, and were as soon as possible removed to hospital. The two first cases were notified in April, and the patients were two domestic servants from a house in Hertford Road; when found to be ill, they were sent away to their homes in Boreland Street and Brookhill Road, by their master, from which localities they were removed to hospital. The third case, notified in June, was that of a boy aged 14, residing in Brookhill Road, who was removed to hospital on the same day the case was notified. The fourth case, notified in October, was that of a man from Stanley Road. He called upon me at my house on a Sunday, requesting me to tell him if he had smallpox. Fortunately I saw him before he could enter the house, and needless to say I had him removed (after some difficulty) to hospital. The fifth case, notified in November, was that of a sailor, who was employed on board the S.S. "Lucania," and who was then residing in Stanley Road. He also was removed to hospital as soon as possible. The origin of the contagium of the first four cases could not be discovered, but the seaman from the "Lucania," I believe, contracted the disease on board that steamship. The five cases all recovered, although I am informed the third case proved to be a very severe one. All the houses were stoved, paper stripped off walls and burnt, bedding burnt, &c.

#### MEASLES.

As the notification of this zymotic is not compulsory in Bootle, it is impossible to say with any certainty as to the approximate number of cases that occurred in Bootle during the year. I can however state, that speaking generally, it was not so prevalent as in 1893. The disease was epidemic in May, June and July, in which months 2, 6 and 3 deaths respectively were registered, only 4 deaths occurred in the other months of the year, the total number being only 15, which number was 9 less than in 1893, and 8 less than the average of the preceding 10 years. The death-rate from this zymotic in Bootle was 0.34 less than that of the 33 large towns. I think that the mortality from this zymotic would have been much greater if the epidemic had occurred in the winter months, as the complications of

bronchitis and pneumonia would then have carried off a large number of children. As the height of the epidemic was in June and July, a great number of children, especially of the poorer class escaped these fatal complications. I may here state that I obtained a good deal of information about the prevalence of the disease and the infected localities from the clerk to the School Board and the School Board Visitors, who, from time to time sent me long lists of the affected children and their residences.

#### SCARLATINA.

This zymotic was more or less prevalent throughout the year, but was the least fatal during the last quarter. The largest number of deaths (6) in one month occurred in May. The disease certainly was of a mild type, and it is remarkable that, although there were only 5 deaths in the fourth quarter, the notifications in the fourth quarter exceeded those in the second quarter by 44, in which there were 12 deaths. The total number of cases notified was 638, and the number of deaths in Bootle persons 36, or 5.6 per cent. of cases notified. The number of cases admitted into hospital from Bootle was 195, and the number from the out-townships 37. The total number of cases therefore admitted into the Linacre Hospital during the year was 232. There was thus an increase in the total number of cases of 106, and the number of deaths from scarlatina in the hospital was 14, 10 of which were of Bootle persons and 4 of persons from the out-to vuships; of the 37 cases admitted from the out-townships, 18 (or about a half) were from Seaforth, these numbers being exactly the same as in 1893. The number of deaths exceeded the average of the preceding 10 years by 14.7, and exceeded the death-rate of the 33 large towns by 0.49. I may here mention that a person was summoned and fined by the magistrates 10/- and costs for removing a scarlatina patient in a cab from Berry Street to Athol Street, Liverpool. The cab was found the same evening and disinfected.

#### DIPHTHERIA.

Thirty-two cases of this zymotic were notified, and 5 deaths occurred, all the deaths being of children under 5 years of age; 3 cases were treated in the Linacre Hospital. The cases notified were 12 more, and the deaths 2 more, than in 1893, but the deaths were 4.2 less than the average of the preceding 10 years. The zymotic death-rate was 0.09, and was about 0.29 less than that of the 33 large towns.

#### MEMBRANOUS CROUP.

I have introduced this disease here, as I believe a great number of medical men believe that this zymotic and diphtheria are merely two names for one disease; whether this is the case or not there is no doubt the two diseases are very closely associated. During the year 12 cases of this disease were notified, 5 of which proved fatal.

#### WHOOPING COUGH.

The number of deaths in Bootle from whooping cough was 22, and 1 in the Walton Workhouse of a Bootle child, making a total of 23 deaths. This number was 11 less than in 1893, and was 1.7 less than the average of the preceding 10 years. All the deaths, except one, were of children under 5 years of age. The death-rate in Bootle was 0.44, and was slightly less than that of the 33 large towns, which was 0.48. The disease was most prevalent and fatal in January, February, and September. In May, June, and October there were no fatal cases.

#### CONTINUED FEVERS.

Typhus—Three cases of this most infectious zymotic were notified during the year, viz:—2 in February and 1 in July; 2 of these cases were removed to hospital and no death occurred. The disease did not spread and the source of the infection could not be traced.

Enteric (or Typhoid) Fever—Cases of enteric (or typhoid) fever were notified in every month of the year, but the fever became epidemic in the autumn, 57 cases being notified in August and 60 in September, and 11 deaths were registered in September, and 6 in October. The total number of cases notified in Bootle during the year was 294, only 26 less than in 1893, when an inquiry from the Local Government Board as to its origin and prevalence was made. The total number of deaths registered, after deducting 6 deaths of persons who died in the Linacre Hospital from the out-townships was 33, this number being 13 less than in 1893. As the weather in the summer and autumn was comparatively cool, and thus contrasted strongly with that in 1893, the number of cases notified and the deaths registered were certainly very numerous. The death-rate per 1000 was 0.64, which exceeded the death rate of the 33 large towns by 0.45. The number of cases of enteric fever admitted into the Linacre Hospital from Bootle was 128, and

the number from the out-townships 35; the total number of cases admitted therefore was 163. The number of cases from the out-townships was only 2 more than in 1893, but the number of cases from Bootle was 49 more than in 1893. Through the new pavilion for enteric fever erected in the autumn of 1893, the accommodation for enteric fever cases had thus been increased, and this partly accounts for the increased number of cases admitted during the year. The total percentage of deaths in cases admitted during the year was 14.7, which was a less percentage than that in 1893. The percentage of deaths in cases admitted from Bootle was a little over 14, that from the outtownships 17.1. Speaking generally, I think a large proportion of the cases admitted into hospital are cases of greater severity than those treated outside, and the late removal of a great many of them to hospital cannot improve their chance of recovery. There is also good reason for believing that a certain number of cases notified are not really enteric fever cases. Dr. Hope, medical officer of health for Liverpool, lately published some statistics to prove that a very large proportion of cases notified were not enteric cases. These facts must materially influence the mortality returns, and I think must especially affect the percentage of mortality of patients treated at their homes. As I have before stated in these reports, I always expect every year an autumnal fever of an enteric character, preceded by epidemic infantile diarrhea, and we have had these two zymotics to contend with every year since I have been Medical Officer of Health of this Borough. Both these zymotics appear to be influenced by the weather, as there always is a larger number of cases and a greater mortality from diarrhea and enteric fever in very hot weather, and I have no doubt that when the loose, porous, sandy soil of Bootle is polluted by animal and decomposing vegetable matter, such as is too often the case in the small yards of the cottage property, the emanations from the sandy soil must affect the health of the inmates of the cottages, and assist it not cause the origin of enteric fever. As the prevalence of enteric fever and diarrhea every year so largely contributes to make the zymotic deathrate of Bootle much larger than it ought to be, I think every endeavour by the sanitary authority should be made to lessen the prevalence and consequent mortality from these two diseases. I think there cannot be a doubt that the privy-midden system is largely answerable for the continued prevalence of enteric fever every year in this Borough. Dr. Robertson, the Medical Officer of Health for St. Helens, in his annual report for 1893 states that in St. Helens "additional evidence has accumulated to show the bad effect of this system." Dr. Robertson states "of the cases of typhoid fever, 1.1 occurred

per 100 houses on the w.c. system, 3.4 occurred per 100 houses on the privy system, and 1.7 occurred per 100 houses on the tub and pail system; therefore typhoid fever occurred twice as frequently in houses on the privy system as in houses on the tub and pail system, and 3 times as frequently as in houses on the w.c. system. This is in complete accordance with the result obtained in 1891." These observations must have been carefully taken, and in my opinion afford complete and conclusive evidence of the bad effects of the privy-midden system. The foul emanations from these receptacles are often plainly perceptible in the interior of the cottages and must tend to produce the disease. I have also observed enteric fever to appear in the same houses in consecutive years, as if the peculiar micro-organism of enteric fever remained in the middens, in spite of disinfectants, &c., and only require a certain amount of heat to produce its poisonons and deadly effect.

#### DIARRHŒA.

The number of deaths from diarrhoa (including the fatal cause of English cholera) was 45, of which 42 were children under 5 years, the majority of which were infants under one year. Owing to the coolness of the weather, the number of fatal diarrhea cases was only a little over one third of that of 1893, and was 21.3 less than the average of the preceding 10 years. withstanding this diminution of cases however, the death-rate from diarrhea was 0.87 per 1000, which number exceeded by 0.36 the average death-rate of the 33 large towns. Although this death-rate was comparatively large, yet the death-rate in Bootle from this zymotic in 1893 exceeded that of last year by 1.72, a striking contrast, no doubt connected with the great difference in temperature in the two years. The disease was most fatal in July, August and September, when 7, 16 and 10 deaths respectively, were registered. I stated in my last year's Annual Report, the summer rise in the diarrhea death-rate commences when the temperature of the subsoil, 4 feet below the surface of the soil, reaches 56° Fahr. It may be as well perhaps that I should mention here that the inference drawn by Dr. Ballard, (Local Government Board Inspector), in his claborate inquiry into the causation of this disease in 1887 was as follows: —"That the essential cause of epidemic diarrhea resides ordinarily in the superficial layers of the earth, where it is intimately associated with the life processes of some micro-organism not yet isolated. the vital manifestation of such organism are dependent among other things, perhaps principally with conditions of season, and on the presence of dead

organic matter, which is its pabulum. That occasionally such organism is capable of getting abroad from its primary habitant, the earth, and having become air-borne, obtains opportunity for fastening on non-living organic material (especially food, whether inside or outside the body) which serves as a nidus and pabulum. That from food and from organic matter in certain soils it can manufacture a virulant chemical poison which is the material cause of epidemic diarrhœa." He moreover states that loose porous sandy soil is most conducive to mortality from diarrhea, particularly if coupled with organic fouling of the earth, no matter whether vegetable or excremental, and also that it is prevalent upon sites such as "made-soils," or on ground polluted by drain or cess-pool leakage. What then, I may ask, could be more conducive to the prevalence of diarrhea, which destroys so many infantile lives, than the contents of open or partly covered privy-middens, with the probable contamination of the surrounding porous sandy soil, by leakages from these receptacles. The foul smells from decomposing animal and vegetable matter, bearing with them the peculiar micro-organism of diarrhea, there is no doubt, from these middens obtain an entrance into the cottages and houses, and when to this important factor of the pollution of the air and soil is added the mortality that always occurs in artificially or "bottle-fed" infants, one is enabled to judge of the causes that influence the abnormally high death-rate from diarrhea, that always occurs in Bootle. I have entered rather fully into this important matter, because I believe that a good many of the owners of property in this Borough are not even now convinced of the necessity of the conversion of the privy-middens and w.c.'s.

I should feel very glad if the proposed short Act of Parliament to enable local authorities to provide "créches" for infants from money out of the rates, were passed, as I feel satisfied these very useful institutions would save many infantile lives.

#### CHOLERA.

No true case of asiatic cholera was notified during the year, although a case of English cholera in Olivia Street notified by Dr. George Wild had so many of the symptoms of asiatic cholera, that I thought it absolutely necessary to take immediate precautions respecting it. This case proved fatal in about 36 hours, and I ordered all the bedding, &c. to be burnt, and the house to be thoroughly disinfected. The body was afterwards removed to the public mortuary, where a post-mortem examination of it was made by Dr

Barron, Hon. Physican of Bootle Borough Hospital, and Professor of Pathology, University College, Liverpool. Dr. Barron afterwards made a bacteriological examination of portions of the viscera, and after a earcful examination reported that the ease was not a true ease of asiatic cholera.

#### INFLUENZA.

There was no great prevalence of this disease during the year, and only 3 deaths were registered as being directly attributable to it, viz.—one in each of the 3 months, February, April and May.

#### DISEASES OF UNCERTAIN OR VARIABLE SEAT.

Thirty-one persons died from this class of diseases during the year, and of them 26 died from caneer, which is a disease better understood than formerly, and on this account may appear to have been more fatal, and to have increased more during the last decade.

#### DISEASES TUBERCULAR.

The number of deaths from this class of diseases registered in Bootle, was 117, of which 48 were of ehildren under 5 years. Of the total number 39 were due to Tabes mesenteriea or marasmus, 7 to tubercular meningitis, 2 to T. peritonitis, and 69 to phthisis. There was, however, one death from phthisis in the district, not belonging thereto, and 15 deaths from it of Boetle persons in the Workhouses, so that 14 should be added to the 69 registered in the Borough, making 83, and giving a death-rate of 1.61 per 1000. Although believing phthisis to be an hereditary disease, still I think there can be no doubt that it is infectious, principally by inhaling the breath, and the dried spnta of a phthisical person. I also think there is no doubt that tubercular meat and milk will convey the disease into the human body, particularly if the meat is not well cooked and the milk boiled. Therefore, in my opinion, the earcases of animals found to be tubereular, and the milk of tuberculous cows ought to be condemned as unfit for food, and there is no doubt that the rooms in which phthisical persons have slept, ought to be fumigated and disinfected. It will be recollected that I spoke strongly on this matter in my last report.

#### DISEASES OF THE LUNGS AND AIR-PASSAGES.

The total number of deaths registered in Bootle from these diseases was 190, which number was 42 less than in 1893, and was thus a considerable diminution in the number of deaths from this class of diseases. As, however, 16 Bootle persons died from these diseases in the Workhouses, and 5 persons not belonging to Bootle died in the Bootle Borough Hospital, 11 deaths ought to be added to the 190, making a total of 201.

#### DISEASES OF THE BRAIN, SPINAL MARROW, &c.

Eighty-four deaths were registered from these diseases during the year, which number was 37 less than in 1893. Of the total number 40 were of children under 5 years of age, 19 of whom died from inflammation of the brain, or its membranes, and 16 under the unsatisfactory heading of "convulsions." Altogether the number of deaths from this class of diseases was much less than in the previous year.

#### DISEASES OF THE HEART AND BLOOD VESSELS.

The number of deaths registered from this class of diseases was 46, one more than in 1893.

#### OTHER DISEASES.

The deaths from other diseases in 1894, when compared with those in 1893, were as follows:—Diseases of the uterus, child-birth, &c., 5, a decrease of 1; diseases of the stomach, liver, &c., 68, an increase of 7; diseases of the kidney and bladder, &c., 16, an increase of 2. I may here mention that under the heading of diseases of the stomach, liver, &c., 11 deaths were registered from enteritis and 7 deaths from gastro-enteritis, and of the 18 deaths from these two diseases 16 were of children under 5 years. Probably the majority of these deaths should have been included with those from diarrhæa. In addition 5 deaths occurred from diseases of the bones, &c, and 2 from diseases of the skin, 2 deaths were registered from malformations, 20 from premature birth, 14 from atrophy and debility and 20 from old age and natural decay. The deaths of 15 persons were registered during the year (a decrease of 6) aged 80 years and upwards—viz., 1 in January, 2 in March, 1 in April, 1 in June, 1 in July, 1 in Angust, 1 in September, 3 in October, 3 in November, 1 in December. Of these old persons 2 died aged

80, 3 aged 81, 3 aged 82, 1 aged 83, 4 aged 85, 1 aged 86 and 1 aged 88. In addition to these old persons who died in Bootle, 4 old Bootle persons died in Walton Workhouse, aged 80, 82, 86 and 91 respectively. I must again regret that so much uncertainty exists as to the correct age of poor persons. Instead of the ages of these persons being over-stated, in my experience, in a large number of instances, the ages are under-stated to make them correspond with the ages given on entering clubs, insurance societies, &c., and many of these persons cannot give a correct age within 10 years through pure ignorance.

#### DEATHS THROUGH VIOLENCE, &c.

Fifty-three deaths from violence, &c. occurred during the year, a decrease of 21 when compared with the number from this cause in 1893. This is a very considerable decrease, but in addition 7 deaths (an increase of 4) were stated to be due to "natural causes," the precise cause not being shown. 44 deaths (a decrease of one) were registered "uncertified," by any medical practitioner, the percentage of these uncertified deaths being 4.8, and of the total number 21 were children under 5 years of age. 24 deaths were due to injuries either from accident or negligence. There were 7 deaths caused by drowning or effects of immersion, 10 deaths were due to burns and scalds, and 2 to suffocation. 2 persons committed suicide, 2 died from excessive drinking, and 6 were "found dead," the cause of death not being clearly proved.

#### INQUESTS.

The number of inquests held during the year was 64, a decrease of 13 when compared with the number in 1893, and a decrease of 22 when compared with that of 1892. The continued decrease of deaths from violence, &c., and of inquests is therefore satisfactory. The number of inquests held in each month was as follows:—January 8, February 4, March 2, April 7, May 7, June 5, July 4, August 5, September 2, October 7, November 5, and December 8. It will thus be seen that nearly 7 per cent. of the deaths in this borough formed the subject of legal inquiry.

#### HORSE AMBULANCE.

Very valuable first aid is rendered, and a vast amount of suffering spared to patients removed to hospital by this ambulance, which is most efficiently worked by the members of the Fire Brigade, every member having, I believe,

passed the necessary training and examination, and become a member of the St. John's Ambulance Association. I believe even life is saved by the prompt and easy manner patients suffering from severe accidents, &c. are removed, as the brigade can turn out in about half-a-minute after an "alarm" has been received. Mr. H. Roberts, the superintendent, informs me, that during the past year the ambulance has turned out to 449 cases, 325 between 6 a.m. and 6 p.m., and 124 between 6 p.m. and 6 a.m.

#### PUBLIC BATHS AND GYMNASIUM.

Through the weather in the summer and antumn of last year not being so hot as in 1893, there was a slight falling off in the number of total The manager, Mr. McMahon, informs me that attendances at these baths. the total attendances last year were 80,692, of which 69,771 were of males, and 10,921 of females. On comparing these numbers with those in 1893, it will be seen that the decrease was entirely in the number of male attendances, as there was actually an increase of 81 in the number of female attendances. The salt water supplied to these splendid baths was in excellent condition throughout the year, and the income from them was £829 2s. 8d. There is no doubt these baths must conduce to the health of the inhabitants, and enable persons to learn the art of swimming. The gymnasium, I am informed, was well attended during the year, "and the exercises being kept within reasonable limits, many of the young people have received evident physical benefit from the gymnasium." The receipts were £87 11s. 6d., being £20 above the previous year. I think this institution ought to be encouraged as much as possible.

#### SANITARY WORK.

Table No. 5 contains the Nuisance Inspector's Report, and shows the large amount of sanitary work accomplished during the year. In many particulars this work has largely increased, especially with regard to disinfection, with the view of making it as efficient as possible. In the first place, special rules have been made with regard to the men employed in the Sanitary Inspector's Department, so as to insure, as far as possible, that these men should not carry infection after work done in infected houses, and after conveying patients to hospital by the fever ambulance, and infected clothing to the disinfecting apparatus. In the early part of the year the Health Committee provided a bath for the use of these men and the staff generally, after

performing the aforesaid sanitary work. Mr. Daley, the Nuisance Inspector, has also used with great advantage, a "disinfecting box" which he has patented. By this box, he can disinfect any person, who has been exposed to infection, by wheeling the box to the house of the said person. A rule has also been made "that any member of the staff who has entered an infected room, should return to the office and be disinfected in the patent box, he should then put his outer clothing in a tin box, have a bath and dress in another suit, and the clothing taken off is then to be disinfected for 4 hours." Since the bath has been fixed, it has been used (together with the apparatus before mentioned) by the staff 482 times. Mr. Daley reports to me that his disinfecting box is of very great service in an outbreak of smallpox, or any other very infectious disease, as by wheeling the box to the house of the infected person, it thereby prevents the necessity of bringing him through the public streets to the Town Hall yard. He also states that it is especially useful where infected persons have no change of clothing, and who cannot therefore have their clothing disinfected by heat in the usual manner.

Infected Houses-During the year 858 houses were disinfected, and in each case notices were sent to the owners to cleanse the infected rooms. this number 55 houses were cleaned by the Local Authority under the Infectious Disease (Prevention) Act, 1890, the owners having failed to comply with the notices served on them. This work entailed 1919 inspections. Disinfectants were taken to each infected house immediately on the notification of the disease. Legal proceedings were taken on two occasions, in one case an order was obtained from the magistrates for the compulsory removal of a case of enteric fever from a common lodging house in Lyons Street. The other case was that mentioned under the heading of "scarlatina" in which a person was fined 10s. and costs for the removal into Liverpool, of a scarlet fever patient in a cab. Table No. 6 gives the items of the legal proceedings taken during the year to enforce obedience to the sanitary requirements. may appear to some persons that in a large Borough like Bootle, the number of prosecutions would be larger than they are, but I think I may truly say, that legal proceedings in Bootle are only taken when absolutely necessary, and when no other way of enforcing the law appears to be possible.

#### INSPECTION OF LODGING-HOUSES.

There are now 194 houses on the register as compared with 108 last year, showing an increase of 86; 154 houses have been newly registered

during the year. From this report of the Inspector it will be seen that the common lodging-house keepers in Bootle change their addresses very often, and it is difficult to trace them. This can only be done by house-to-house inspections of the houses usually occupied as lodging-houses. The Inspector reports that 2,065 day and night inspections of these houses were made, and in 1886 instances no infringements were reported, while in 179 cases they were in an unsatisfactory condition. 15 cases of infringements of the bye-laws were brought before the magistrates, with the result that 12 lodging-house keepers were fined and 3 dismissed. Of the 12 lodging-house keepers convicted, 1 was fined £2 and costs, 5 were fined £1 and costs, 2 were fined 10/- and costs, 3 were fined 5/- and costs, and 1 was fined 2/6 and costs.

#### NUISANCES.

Mr. Daley, the Sanitary Inspector, reports that during the year nuisances were reported to exist in 1,585 private houses. Of this number 159 houses were inspected by special requests of the tenants. The nuisances dealt with include nuisances from defective drainage, water closets, sinks, bath and wash-basin waste pipes, roofs, downspouts, yard surfaces, ventilation, filthy houses, accumulations of filth, manure, stagnant water, and refuse matter, fowls and animals improperly kept. Reinspections of these premises were made and the necessary steps taken to abate the nuisances. Owners were summoned in 5 instances for non-compliance of notices.

#### SYSTEMATIC INSPECTIONS.

Accompanied by the Nuisance Inspector, I again made during the year a very large number of systematic inspections. Having in view the great desirability of converting the present insanitary middens into w.c's., the Health Committee instructed me to make as many inspections of the cottage property as I could, and report on the condition of these middens. In compliance with these instructions I inspected nearly the whole of the cottage property in Bootle during the year, and reported on the condition of these middens, the greater part of which I found to be in an insanitary condition. Besides these inspections of the cottage property, I made at various times other inspections in cases that appeared to require special attention or special action to rectify sanitary defects.

#### INSPECTION OF BAKEHOUSES.

On the 3rd October, accompanied by the Sanitary Inspector, Mr. Daley, I made my annual inspection of the bakehouses in this Borough. We found the number of the bakehouses to be 40, but 6 were not in use. 22 required whitewashing and cleaning, and we found baker's smoking tobacco in two of them. The smoking of tobacco I consider to be very reprehensible, as the sputa might convey tubercular disease in the dough. We found other defects with regard to drainage, &c. in a few of the bakehouses, which defects were remedied by the owners of the property.

#### INSPECTION OF WORKSHOPS.

The Sanitary Inspector reports that there are now 60 workshops on the register, as against 51 in the previous year, showing an increase of 9. Several of the old workshops have ceased to be used, and have been erossed off the register. They have been very efficiently inspected, principally by the Assistant Sanitary Inspector, Mr. McCulloch, who has paid particular attention to their eleanliness and ventilation, and also to the prevention of overcrowding. During the year the defects found to exist included 1 case of overcrowding, 8 cases of insufficient ventilation, and 9 cases of want of cleanliness. These defects were all remedied after serving notices on the occupiers of the workshops.

#### INSPECTIONS OF DAIRIES, COWSHEDS, AND MILK-SHOPS.

The number of persons on the register for the sale of milk, during the year was 112, which was a decrease of 23 when compared with the number in the previous year. 223 inspections of these cowsheds and milk-shops were made, and 23 notices were served to repair sanitary defects and cleanse milk-shops and shippons. I may mention that these inspections are very important, as proved by the fact that infectious or contagious diseases were notified on the premises of three buildings registered as cowsheds and milk-shops. The following notifications were received in connection with these diseases:—Scarlet fever, 2 cases; diphtheria, 1 case; enteric fever, 3 cases. All these diseases might easily have been communicated to persons who purchased milk from these premises. Fortunately the precaution taken prevented the spread of these diseases and no fresh cases arose. The precautions taken were as follows:—The immediate removal of the patients to hospital, after receiving the notifications. The destruction of all the milk in

the infected premises. Thorough fumigation and disinfection of premises, clothes, &c. Water supply carefully examined, &c. In connection with these cases, it was found necessary to destroy about 24 gallons of milk.

#### FOOD INSPECTIONS.

During the year, 9 seizures of unsound food were made, the total amount being about 1689 lbs. The particulars of these seizures were as follows:—

- 1--502 lbs. Bacon at the Alexandra Dock.
- 2—1076 lbs. Bacon, at the Alexandra Dock. Orders were made by the magistrates for the bacon to be destroyed, no further proceedings were taken.
- 3—19 lbs. Meat from shop in Irlam Road. Fined 10s. and costs.
- 4-12 lbs. Meat from shop in Knowsley Road. Fined 10s. and costs.
- 5-23 Herrings ordered to be destroyed (from Derby Road).
- $6-2\frac{1}{4}$  lbs. Meat from Knowsley Road, ordered to be destroyed.
- 7— $3\frac{1}{2}$  lbs. Meat from shop in Peel Road, ordered to be destroyed.
- 8-43 lbs Fruit from shop in Irlam Road, ordered to be destroyed.
- 9—70 lbs. of Corned Beef from shop in Marsh Lane. Fined £5 and costs.

#### INSPECTIONS OF CATTLE SHIPS.

During the year 830 inspections and re-inspections of these ships were made by Assistant Inspector Owens. Several slight infringements were reported and were remedied on being pointed out to the persons responsible.

#### INSPECTIONS OF CANAL BOATS.

As the Leeds and Liverpool Canal runs through Bootle, inspections of canal boats have to be made, although Bootle is not a registering district. These inspections are made by Assistant Inspector Owens under the direction of the Sanitary Inspector. 391 inspections of canal boats were made during the year, 4 infringements were reported, and notices were sent to the owners and masters, who have in each case remedied the defects reported.

#### ADULTERATIONS.

Sale of Food and Drugs Act—The Chief Constable (Mr. James Cumming) and Inspectors Leslie and Ferguson, have the carrying out of these acts during the year, and 115 samples were taken and sent to the public analyst.

Table No. 7 gives a description of the food submitted for analysis. 11 persons were prosecuted, 10 were convicted and one dismissed.

#### WATER SUPPLY.

Table No. 8 gives the analyses of the hard and soft waters, supplied by the Liverpool Water Committee to Liverpool, Bootle and other districts in the four quarters of the year. These analyses are supplied by the public analyst at the end of every quarter to the Bootle Corporation, together with the distribution of the said waters. It will be noticed that these analyses differ very little from those in the previous year. Bootle during the last year was supplied principally by hard water from the Bootle wells, but when the engine at the wells was stopped, soft water from either Vyrnwy or Rivington, mixed with a small proportion of Green Lane well water, was supplied. I am informed that Bootle will shortly be supplied entirely by soft water, and for that purpose a large pipe line has been laid through the Borough and a large covered reservoir is now being constructed on the summit of Breeze Hill. When the arrangements for this new water supply are completed, I hope Bootle will then always have an uniform supply, which certainly the inhabitants have not received for a long time past, and which I hope will still further tend to improve the sanitary condition of the Borough.

#### THE "DESTRUCTOR."

After having advocated the usefulness of a refuse destructor for several years past. I was very pleased to find that, by the advice of the Health Committee, the Corporation had agreed to have a destructor erected. This determination of the Committee was hastened by the fact that whereas in years past the contents of middens and ashpits had been bought by farmers and thus had been a source of profit to the Corporation, for the last year or two the Corporation had actually to pay money to get this excremental and other refuse matter removed. The Borough Surveyor informs me that the number of ashpits emptied during the year was 34,835, and that 277 boat loads of manure were removed by the canal. He also informs me that the destructor was opened in April and has proved a great success in every way. Since its construction, the destructor has burnt 5,971 tons of refuse matter, and 13 boat loads of ashes and 7 boats of rubbish have been sent away by canal. It has been built on the Corporation land at the manure wharf. In a financial point of view he states that it will be especially a saving of money

to the Corporation. The erection of this destructor I may say, has never been really opposed by the public, and no complaint of any consequence has been made since its construction. When the Government Inspector made his official inquiry at the Town Hall previous to the borrowing of £8,000 the cost (approximate) of this destructor, there was no real opposition to it, a fact on which the Inspector congratulated the Corporation. I may mention that the chimney is of octagonal shape on a square base, and is 180 feet in height. Since the opening of the destructor I have visited the neighbourhood where it is situated, many times weekly, and have never observed any unpleasant smells from it, either there or in any other part of the Borough. In my opinion when the remaining privy-middens have been converted into w.c.'s this destructor will be invaluable, as it will destroy all refuse matter that can be burnt, and the greater the quantity of refuse matter burnt, the less in proportion is the cost of its destruction. The clinkers remaining after the burning of this refuse matter can be, and probably will be, ground down in a mortarmill and made into mortar and other useful materials. The clinkers have also been found very useful for making foundations of roads in the new park, which is now being constructed and layed out on the eastern side of the borough near Walton.

#### SANITARY PROCEEDINGS AND ADVICE, &c.

In accordance with Act 14, Section 4 of the Local Government Board's Order, I now proceed to refer to "Proceedings relating to conditions dangerous or injurious to health, in which I have taken part or advised" the Sanitary Authority during the year. I have reported regularly every fortnight during the year, to the Health Committee, on the vital statistics of the Borough, the sanitary requirements and the work accomplished, together with special reports when necessary. Speaking generally, these reports have shown that the health of the Borough was much more satisfactory than in 1893, when the death-rate was 23.1 per 1,000, whereas it had dropped to 18.4 per 1,000 in As before stated, a great deal of my time was occupied during the year with the Sanitary Inspector, in inspecting the cottage property, nearly the whole of which I inspected. My reports of the results of these inspections were fully made to the Committee, and it is, I think, sufficient for me to state here, that in my opinion the whole of the middens in this cottage property ought to be converted into w.c's, as I fully believe the great part of the diarrhea and enteric fever so prevalent in the summer and antumn in each year in

this Borough is caused by the insanitary conditions of these foul receptacles. No doubt the coolness of the weather last year lessened the mortality, but what I wish especially to point out is, that every endeavour should be made to carry out the sanitary improvements I have advocated, which in my opinion will certainly decrease the mortality from these two zymotics, which for many years past have caused more or less the death-rate in this Borough to be larger than it ought to be. In February I again recommended the system of erecting vent-shafts, wherever bad smells from the road ventilators were complained of, and I think this system cannot be too largely adopted. In April I recommended that a number of cellars in a large block of buildings should be closed, and I certified that they were unfit for habitation. In consequence of the action I took in this matter these cellars were afterwards closed. I have reported every quarter on the analyses of the several waters supplied by the Water Committee in Liverpool, but as the management and distribution of the water supplied to Bootle is entirely under the control of the water Committee in Liverpool, these reports that I have made each quarter, have not been to me, so satisfactory as I should have desired. With regard to the diseases which have been at various times prevalent in Bootle during the year, I have reported so fully respecting them, under their several headings, that I think there is now nothing more of any consequence to say about tliem.

(Signed) R. J. SPRAKELING,

Medical Officer of Health.

April 4th, 1895.

TABLE OF DEATHS during the year 1894, in the Urban Sanitary District of Bootle (County Borough): classified according to DISEASES, AGES, and LOCALITIES.

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NG, Malical Officer of Health, Area and Population of the District or Division to which this return relates.

Area in Acres, 1590. Population (1891), 49,217) Estimated (1894), 51,500.

Death Rates—General 18.4 per 1.000 Population. Infants 157.8 per 1,000 Births Registered. R. J. SPRAKELING, Medical Officer of Health, 4th April, 1895.

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Table No. 1—Tabulated Statement of the Number of Births in each Quarter, and the Number of Deaths and Infant Mortality in each Month in 1894, comparing these numbers with those in 1893; also the Percentage of Deaths under 5 Years to total Deaths in 1894.

	18 Quar	BIRTHS.  91. ters.   F'inales	1893. Q'rters		DEATHS. 1894. Females.	Total.	DEATHS 1893. Total.		. 5.	Percen'ge of Deaths under 5 Years to Total Deaths.	Under 1 Year.	
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Table No. 2—Number of Infectious Cases notified to Sanitary Authority in each Month of 1894.

1894.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Small-pox	_	_	_	2	_	1				1	1		5
Searlatina	70	63	66	57	28	27	34	76	61	79	42	35	633
Diphtheria	1	3	4	2	3	_	3	1	6	3	3	3	32
Typhus		2					1		<u> </u>		-		3
Enteric (or Typhoid)	10	8	11	23	12	8	30	57	6)	31	23	21	294
Simple Continued Fever			1	- 1	-			1 —	-	-	-	1	2
Membranous Croup	1	1	1		2	2	- 4	2		3	_	_	12
Erysipelas	S	8	4	3	3	6	-	1	6	2	4	2	47
Puerperal Fever	1	1		J	-	1	<u> </u>	_		2	_	—	6
	91	86	87	1 83	-13	45	68	137	133	121	73	62	1039

Table No. 3—Shows the Number of Deaths from the Seven Principal Zymotic Diseases in the Ten Years, 1884 to 1893 (inclusive) and in the Year 1894.

DISEASES.	1884.	1895.	1886.	1887.	1888	1889.	1890	1891.	1892.	1893.	An'al Av'ge of 10 Years, 24-93	Total Deaths in 1894.	Doafter d'drn & add'g Dths from outside and invide Borough
Small-pox	1	21			-	1		_		4	2.7		
Measles	22 16	33 6	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	33 26	14	$\begin{vmatrix} 30 \\ 8 \end{vmatrix}$	$\begin{array}{ c c }\hline 16 \\ 27 \\ \end{array}$	35 31	$\frac{7}{32}$	24 20	$\frac{23.4}{21.3}$		15
Diphtheria	13	13	7	10	7	12	6	7	14	3	9.5		$\frac{36}{5}$
2 (Typhus	1	2	<u>'</u>			3	i		1	_	.8		J
(Typhus - Enteric or Typhoid (Simple Continued	11	13	11	8	19	17	8	13	16	46	16 2		33
(Simple Continued	l		_	<u> </u>		-	2	1			.4	_	
Whooping Cough	18	21	18	32	13	20	50	35	6		24.7		23
Diarrhœa	61	29	84	80	51	7.4	61	52	40	131	66.3	15	45
	1.1.4	138	169	189	122	165	171	174	116	232	165	165	157

TOTA E. == 63 == 16 では到本型では第15年 505 = 917 ·du TOTAL. :02 bus è Under 5 43 DEC. 88+127=215. 4th Quarter. 1 38 58 Nov. NOV. Table No. 4.—Summary of the Causes of Deaths during the Year 1894. 20 : 23 OCT. 22 32 SEPT. 46 Sept. 133+123=256. MAY. | JUNE. | JULY. | AUG. 41 Aug. 85 43 | 36 79 July. June. 3 31 75+124=199 2nd Quarter. 5. May. 50 65 April. --APR. <u>۔</u> در 94 March. MAR. 53 116+131=247 1st Quarter. 99 Feb. 8 FEB. 긪 ·da JAN d din d Under Dis. of uncertain seat, incl'ding Cancer 26 Diseases of Brain, Spinal Marrow, &c... of Heart and Blood Vessels of Lungs and Air Passages of Uterus, Childbirth, &c. of Stomael, Liver, &c. of Kidneys, Bladder, &c. Diseases Tubercular (Phthisis 69) Not Certified (eauses doubtful) NAMES OF DISEASES. Deaths through Violence, &e. Scarlatina
Diphtheria
Typhus
Typhoid or Enteric
Carlon Simple Continued
Whooping Cough Diarrhea and Dysentery Atrophy and Debility
Old Age and Natural Deeay Diseases of the Bones, &c. Pyemia and Septiecemia Diseases of the Skin. ZYMOTIC DISEASES Group (Membranous) Rheumatie Fever ... English Cholera Premature Birth Puerperal Fever Malarial Fever Smallpox Measles Malformations Erysipelas nfluenza Syphilis Trincipal Xymoties.

#### TABLE No. 5.

#### INSPECTOR OF NUISANCES REPORT FOR THE YEAR 1894.

#### Nuisances. 159 No. of Special Complaints . . . Houses Inspected 1883 . . . . . . Houses Re-inspected ... 2484 Nuisances Reported ... 1585. Inspections of Middens 6725Cases in which Magistrates' Orders were obtained for Abatement of Nuisances 5 DISINFECTION. No. of Houses or parts of houses disinfected 858 . . . Notices sent to cleanse same .. . . . 858 . . . Houses cleansed by Corporation in default of owner 55 Times bath and disinfecting box used by staff 482 Inspections of Infected Houses 1919 Fever cases removed to hospital— From Bootle . . . . . . . . . 314 Seaforth 30 . . . . . . . . . . . . Waterloo 24 . . . . . . ... Crosby 9 ... . . . . . . Litherland 9 . . . . . . - 386 Cases in which Legal Proceedings were taken 2 Common Longing Houses. No. of Houses registered under the Public Health Act 194 Houses newly registered . . . 108 Houses now on the register ... . . . 154 . . . Day and night inspections ... 2065 . . . . . . . . . Infringements of Bye-Laws ... 179 . . . , , Cases brought before Magistrates 15 . . . . . . Cases dismissed 3

### Dairies, Cowsheds and Milkshops.

No. on	Register		,	* * #	• • •	112
No. of	Inspections made		• • •	• • •		223
	Notices served for defects					23
	Dairies, &c. in which feve					3
,,		- 00041			Jour	Ŭ
	CATTLE SHIPS A	AND CAN	TAL BOA	TS.		
No: of	Inspections of Cattle Ship	os	• • •	0 0 0	• • •	830
2 1	Inspections of Canal Boar	ts	• • •			391
,,	Infringements reported		• • •	• • •	• • •	4
	Worn	KSHOPS.				
No. of	Registered Workshops		• •		• • •	60
	Defects reported during t					
	the above	-		_		18
	Bakei	iouses.				
No. of	Used Bakehouses				•••	40
, ,	Notices sent in reference	to clean	sing sai	me	. • •	23
	Bakehouses found with sa					8
	Food Ins	SPECTION	•			
No. of	Seizures of unsound food				• • •	9
1 9	Amount of unsound food	seized d	luring t	he year	r lbs	1.1689 <u>‡</u>
3 9	Magistrates' Orders obtain		_			
,,	same					9
2.2	Persons against whom su					
,,	and who were fined i					3

### Table No. 6 — Legal Proceedings.

Breaches of Loc	lging I	House Re	egula	tions	• • •		• • •		15
Breaches of Pub	olic He	alth Act	and	Bye-L	aws				3
Defective Drain	S	• • •	• • •		• • •		• • •		2
Prosecutions for	depos	iting uns	sound	meat,	and ot	her Foo	od for sa	ıle	9
Keeping Swine,	so as	to be a	Nuis	ance		* * *		• • •	1
Smoke Nuisance		• • •		• •	•••	••			1
Prosecutions for	infrin	gements	of L	aw wit	h respe	et to In	nfection	S	
Cases	• • •	• • •		• • •	• • •	• • •			2
Adulteration	••	• • •	• • •				• • •	• • •	11
				ŗ	Potal			• • •	44

TABLE No. 7.

# PROCEEDINGS TAKEN UNDER THE FOOD AND DRUGS ACT, YEAR ENDING 31st DECEMBER, 1894.

Description of Samples Taken.	No. of Samples Taken.	No. of cases in which legal proceedings have been taken.
Butter	28	2
Lard	10	~~
Bread	G	gar manag
Coffee	13	5
Pepper	3	-
New Milk	80	4
Brandy	3	Nager
Whisky	10	
Rum	7	oper reter
Gin	7	
Vinegar	; ;}	. Lauren
Total	115	11

Note-Ten persons were convicted, and one dismissed.

Table No. 8-Analysis of Hard and Soft Waters Supplied by the Liverpool Water Committee, to Liverpool, BOOTLE AND OTHER DISTRICTS IN THE FOUR QUARTERS OF 1894.

	33	
Remarks.	Clear and colourless Ditto Ditto Ditto Clear & slightly yellow Slightly Peaty Ditto Clear and Bright Ditto Ditto Slightly Peaty Ditto	Slightly Peaty, neutral Clear and Bright Slightly Alkaline Ditto Ditto Slightly Peaty & very Slightly Peaty Acid
Total Hard- ness.	101 102 102 103 103 103 103 103 103 103 103 103 103	2.7° 17.5° 6.° 25.1° 3.6°
Chlorine	8.5. 8.1. 9.1. 9.3. 9.3. 1.2. 8.3. 1.2. 8.3. 1.3. 1.4. 8.4. 1.5.	1 m m m n n n n n n n n n n n n n n n n
Total combined Nitrogen	.558 .476 .517 .505 .060 .060 .460 .478 .460 .444 .468 .481	.049 .460 .459 .481 .048
Nitro- gen as Nitrates	. 541 . 482 . 482 . 000 . 000 . 482 . 487 . 415 . 415 . 415 . 459	.487 .487 .459 .000
Ammo- nia.	000000000000000000000000000000000000000	000.
Organic Nitrogen	017 017 028 028 058 017 017 017 029 029 029	.046 .023 .023 .021 .031
Organic Carbon.	.042 .047 .041 .051 .195 .205 .061 .047 .251 .045 .067 .057	.276 .051 .061 .051
Total Sclid Matter in Solution	31.48 17.56 35.32 43.52 43.52 8.76 31.12 42.12 8.6 31.8 18.4 36.6	6·7 31·04 17·64 35·72 10·36 made
S OF Samples Drawn 1894	13th March  — — — — — — — — — — — — — — — — — —	· S
DATES OF Analyst's Sa Report Dr 1894.	24tl: Mrch. 13th March 31.48  Sample taken March 29th 7.00  21st June. 5th June. 5.32  ————————————————————————————————	18th Dec. 4th Dec.
Description.	Green Laue Well Dudlow Lane Windsor Bootle Vyrnwy Zud Quarter— Vyrnwy Rivington Green Lane Well Dudlow Lane Bootle Journal Quarter— Rivington Green Lane Well Windsor Bootle Ath Quarter—	Vyrnwy (ireen Lane Well.  Dudlow Lane Windsor Rivington Bootle

TABLE No. 9.

AY. JUNE. JULY. AUG. SEPT. OCT. NOV. DEC. Total.  Un- 5  der and 5   up.		8 6 11 5 6 3 8 9 6 4 8 4 9 62 66 128
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LOCALITIES.	Aber Street Addison Street Albany Place Albany Place Ampton Place Antension Street Antension Street Armstrong Street Armstrong Street Artizan's Buildings Ash Street Audley Street Balliol Road Baltery, The Bangor Street Bank Road Battery, The Bangor Street Bank Road Battery, The Bangor Street Bank Road Battery, Street Bedford Road, Derby Wd. Ledford Road, Derby Wd. Bedford Road, Street Benevy Street Bibhy's Lane	Carried forward

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Brought Forward  Brought Forward  Boreland Street  Boston Street  Boston Street  Boswell Street  Brasenose Road. with  Leslie's Buildings  Breeze Hill  Bridge Street  Brook Road  Brook Road  Brook Road  Brook Road  Brook Road  Brook Breet  Brook Breet  Browning Street  Browning	

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